

POWER CONTROL CIRCUIT WITH ACTIVE IMPEDANCE
TO PREVENT SENSING OF SPURIOUS INFORMATION

ABSTRACT OF THE DISCLOSURE

5 A power control circuit includes sensing circuitry for sensing
information about operation of a power device such as an IGBT or other power FET.
The sensing circuitry receives a sense input signal from the power device through a
gating device such as a diode. The power control circuit also includes active
impedance circuitry for preventing the sense input signal from including spurious
10 information received from the gating device. For example, if the gating device is a
diode across which negative spikes can be capacitively coupled, the active
impedance circuitry can prevent the negative spikes from reaching the sensing
circuitry when the diode is off. The active impedance circuitry can take the form of a
transistor connected between a power supply and a sensing node. The active
15 impedance device can be switched on by a comparator when the voltage across the
power device exceeds a reference voltage, indicating the power device is off.
Alternatively, the active impedance device can be controlled by a comparator in the
sensing circuitry that provides an output that similarly indicates whether the power
device is on or off. The sensing circuitry and active impedance circuitry can be
20 implemented on an integrated circuit.

FOOTNOTES